

**Amendments to the Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims:**

1           Claim 1 (currently amended): A wireless communication  
2   system comprising a base station and an associated station  
3   for conducting wireless packet communications,  
4           wherein the base station and the associated station  
5   have each a plurality of antennas,  
6           wherein the base station comprises:  
7           ~~a base station antenna selection means for selecting~~  
8   unit which selects a packet transmit antenna from among the  
9   plurality of antennas;  
10          ~~an antenna selection control means for specifying unit~~  
11   which specifies the antenna to be selected by the base  
12   station antenna selection ~~means~~ unit based on quality  
13   information of each transmission path established between  
14   the plurality of antennas and the antenna selected from  
15   among the plurality of antennas of the associated station;  
16   and  
17          ~~a transmit control means for transmitting unit which~~  
18   transmits a packet to be transmitted to the associated  
19   station from the antenna selected by a base station antenna  
20   selection ~~means~~ unit, and  
21

22           wherein the associated station comprises:  
23           an associated station antenna selection~~means for~~  
24 ~~selecting unit which selects~~ one antenna from among the  
25 plurality of antennas;  
26           a receive~~means for receiving~~ unit which receives the  
27 packet through the antenna selected by the associated  
28 station antenna selection~~means~~ unit; and  
29           an antenna switch control~~means for controlling~~ unit  
30 which controls so as to switch the antenna selected by the  
31 associated station antenna selection~~means~~ unit to a  
32 different antenna in response to receiving the packet by  
33 the reception~~means~~ unit.

1           Claim 2 (currently amended):       The wireless  
2 communication system according to claim 1,  
3           wherein the base station comprises a transmit power  
4 ~~control means for controlling~~ unit which controls transmit  
5 power of the packet based on the quality information.

1           Claim 3 (currently amended):       The wireless  
2 communication system according to claim 1 ~~or 2~~,  
3           wherein the associated station comprises:  
4           a selection probability storage~~means for storing~~ unit  
5 which stores the selection probability indicating what  
6 probability each of the plurality of antennas is to be  
7 selected at;

8            a receive quality information storage~~means for~~  
9        storing unit which stores receive quality information  
10       associating the receive quality of the packet received at  
11       the receive~~means~~ unit and the antenna receiving the packet  
12       with each other; and  
13           a selection probability update~~means for updating~~ unit  
14       which updates the selection probability based on the  
15       receive quality information, and  
16           wherein the antenna switch control~~means~~ unit  
17       determines the different antenna based on the selection  
18       probability.

1           Claim 4 (currently amended):        The wireless  
2       communication system according to~~any of claims 1 to 3~~  
3       claim 1,

4           wherein the base station comprises a space-time coding  
5       ~~means for performing unit which performs~~ space-time coding  
6       of the packet to generate a plurality of coded packets,

7           wherein the base station antenna selection~~means~~ unit  
8       selects as many antennas as the number responsive to the  
9       number of the coded packets,

10           wherein the transmit control~~means~~ unit transmits the  
11       plurality of coded packets from the selected antennas to  
12       the associated station at the same time, and

13            wherein the associated station comprises a combining  
14 ~~means for combining unit which combines~~ the plurality of  
15 coded packets received in the reception ~~means~~ unit.

1            Claim 5 (currently amended):        The wireless  
2 communication system according to ~~any of claims 1 to 4~~  
3 claim 1,

4            wherein the base station comprises an RSSI estimation  
5 ~~means for estimating unit which estimates~~ RSSIs of the  
6 packets received through the plurality of antennas from the  
7 antenna selected by the associated station antenna  
8 selection ~~means~~ unit, and

9            wherein the quality information is the estimated RSSI.

1            Claim 6 (currently amended):        The wireless  
2 communication system according to ~~any of claims 1 to 4~~  
3 claim 1,

4            wherein the packet contains a response request packet  
5 for making a request to send a receive response of the  
6 packet and a data packet,

7            wherein at the packet communication start time with  
8 the associated station, the transmit control ~~means~~ unit  
9 transmits the response request packet to the associated  
10 station from the antenna selected by the base station  
11 antenna selection ~~means~~ unit,

12            wherein the associated station receives the response  
13   request packet by the receive~~means~~ unit and transmits a  
14   response packet of a response to the response request  
15   packet to the base station from a different antenna to  
16   which the antenna is switched by the antenna switch control  
17   ~~means~~ unit,  
18            wherein the base station comprises an RSSI estimation  
19   ~~means for estimating unit which estimates~~ RSSIs of the  
20   response packets received at the plurality of antennas,  
21            wherein the quality information is the RSSI, and  
22            wherein the transmit control~~means~~ unit transmits the  
23   data packet to the associated station from the antenna  
24   selected by the base station antenna selection~~means~~ unit  
25   according to the specification based on the quality  
26   information.

1            Claim 7 (original): The wireless communication system  
2   according to claim 6,  
3            wherein the data packet contains the response request  
4   packet.

1            Claim 8 (currently amended):        The wireless  
2   communication system according to ~~any of claims 1 to 7~~  
3   claim 1,  
4            wherein the plurality of antennas of the base station  
5   and the associated stations have different characteristics.

1           Claim 9 (currently amended): A wireless station for  
2     conducting wireless packet communications with an  
3     associated station, the wireless station comprising:  
4           a plurality of antennas;  
5           ~~an antenna selection means for selecting unit which~~  
6     selects a packet transmit antenna from among the plurality  
7     of antennas;  
8           ~~an antenna selection control means for specifying unit~~  
9     which specifies the antenna to be selected by the antenna  
10    ~~selection means unit~~ based on quality information of each  
11    transmission path established between the plurality of  
12    antennas and the antenna selected from among a plurality of  
13    antennas of the associated station; and  
14           ~~a transmit control means for transmitting unit which~~  
15    transmits a packet to be transmitted to the associated  
16    station from the antenna selected by the antenna selection  
17    ~~means unit,~~  
18           wherein the antenna selected from among the plurality  
19    of antennas of the associated station is switched to a  
20    different antenna each time the packet is received in the  
21    associated station.

1           Claim 10 (currently amended): The wireless station  
2     according to claim 9, comprising:

3        a transmit power control~~means for controlling unit~~  
4        which controls transmit power of the packet based on the  
5        quality information.

1        Claim 11 (currently amended): The wireless station  
2        according to claim 9 ~~or 10~~, comprising:

3        a space-time coding~~means for performing unit which~~  
4        performs space-time coding of the packet to generate a  
5        plurality of coded packets,

6        wherein the antenna selection~~means unit~~ selects as  
7        many antennas as the number responsive to the number of the  
8        coded packets, and

9        wherein the transmit control~~means unit~~ transmits the  
10       plurality of coded packets from the selected antennas to  
11       the associated station at the same time.

1        Claim 12 (currently amended): The wireless station  
2        according to ~~any of claims 9 to 11~~ claim 9, comprising:

3        an RSSI estimation~~means for estimating unit which~~  
4        estimates RSSIs of the packets received through the  
5        plurality of antennas of the wireless station from one  
6        antenna selected from among the plurality of antennas of  
7        the associated station,

8        wherein the quality information is the estimated RSSI.

1           Claim 13 (currently amended): A wireless station for  
2   conducting wireless packet communications with an  
3   associated station, the wireless station comprising:  
4           a plurality of antennas;  
5           ~~an antenna selection means for selecting unit which~~  
6   selects one antenna from among the plurality of antennas;  
7           ~~a receive means for receiving unit which receives a~~  
8   packet transmitted from a packet transmit antenna selected  
9   from among a plurality of antennas of the associated  
10   station through the antenna selected by the antenna  
11   ~~selection means unit~~; and  
12           ~~an antenna switch control means for controlling unit~~  
13   which controls so as to switch the antenna selected by the  
14   antenna selection ~~means unit~~ to a different antenna in  
15   response to receiving the packet by the receive ~~means unit~~.

1           Claim 14 (currently amended): The wireless station  
2   according to claim 13, comprising:  
3           ~~a selection probability storage means for storing unit~~  
4   which stores the selection probability indicating what  
5   probability each of the plurality of antennas is to be  
6   selected at;  
7           ~~a receive quality information storage means for~~  
8   storing unit which stores receive quality information  
9   associating the receive quality of the packet received at



10 the receive ~~means~~ unit and the antenna receiving the packet  
11 with each other; and  
12 a selection probability update ~~means for updating~~ unit  
13 which updates the selection probability based on the  
14 receive quality information,  
15 wherein the antenna switch control ~~means~~ unit  
16 determines the different antenna based on the selection  
17 probability.

1 Claim 15 (currently amended): The wireless station  
2 according to claim 13 ~~or 14~~,  
3 wherein the packet transmitted from the associated  
4 station is a plurality of coded packets generated by  
5 performing space-time coding of the packet, and  
6 wherein the wireless station comprises a combining  
7 ~~means for combining~~ unit which combines the plurality of  
8 coded packets received in the reception ~~means~~ unit.

1 Claim 16 (currently amended): The wireless station  
2 according to ~~any of claims 9 to 15~~ claim 9,  
3 wherein the plurality of antennas have different  
4 characteristics.

1 Claim 17 (new): The wireless station according to  
2 claim 13,

3 wherein the plurality of antennas have different  
4 characteristics.